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Claim Amendments:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A process for producing long lengths of a layered superconductor comprising:

a. ~~providing~~ coating a buffered metal substrate tape ~~coated~~ with precursors of $REBa_2Cu_3O_7$ where RE is a rare earth, wherein coating is carried out during the process of metalorganic deposition (MOD);

b. translating the tape through a precursor conversion zone in a process chamber at a rate of at least about 10 meters per hour;

c. introducing oxygen and water vapor through a showerhead into the precursor conversion zone while translating the tape; and

d. heating the tape to a temperature in the range between about 700°C. to about 850°C.;

where the pressure in the process chamber is in the range between about 1 Torr to about 760 Torr and where the substrate resides in the precursor conversion zone for a period of time sufficient to convert the precursors to a superconducting coating epitaxial to the buffer layer.

2. (Original) The process of claim 1 where the substrate is selected from the group consisting of stainless steel and nickel alloys.

3. (Original) The process of claim 1 where the substrate is biaxially textured.

4. (Original) The process of claim 1 where the buffer on the metal substrate tape is selected from the group consisting of YSZ, CeO_2, MgO, $SrTiO_3$, $LaMnO_3$, $SrRuO_3$, Y_2O_3, Gd_2O_3, $LaSrMnO_3$ and combinations thereof.

5. (Original) The process of claim 1 where the pressure in the process chamber is in the range between about 10 Torr to about 760 Torr.

6. (Canceled)

7. (Original) The process of claim 1 where the atmosphere in the process chamber has a dew point between about 40°C. to about 80°C.

8. (Previously Presented) The process of claim 1 where a partial pressure of water vapor in the process chamber is between about 1 Torr and about 50 Torr.

9. (Previously Presented) The process claim 1 where the oxygen is introduced through the showerhead with a carrier gas, an oxygen content in the carrier gas ranging between about 10 ppm and 10%.

10. (Previously Presented) The process of claim 1 where a partial pressure of the oxygen and water vapor is substantially consistent throughout the precursor conversion zone.

11. (Previously Presented) The process of claim 1 where the distribution of the oxygen and water vapor is uniform throughout the precursor conversion and film growth zone.

12. (Currently Amended) A process for producing long lengths of a layered superconductor comprising;

a. ~~providing~~ coating a buffered metal substrate tape ~~coated~~ with precursors of $REBa_2Cu_3O_7$ where RE is a rare earth, wherein coating is carried out during the process of metalorganic deposition (MOD);

b. translating the tape through a precursor conversion zone in a process chamber at a rate of at least about 10 meters per hour;

c. introducing oxygen and water vapor through a showerhead into the precursor conversion zone while translating the tape, the showerhead having a width at least as wide as the sum of the widths of the translating tapes plus the sum of the distances between each of the translating tapes and having a length at least as great as the width; and

d. heating the tape to a temperature in the range between about 700°C. to about 850°C.;

where the pressure in the process chamber is in the range between about 1 Torr to about 760 Torr and where the substrate resides in the precursor conversion zone for a period of time sufficient to convert the precursors to a superconducting coating epitaxial to the buffer layer.

13. (Previously Presented) The process of claim 1 wherein reaction by-products are removed from the process chamber by a pumping system located proximate to the precursor conversion zone.

14. (Original) The process of claim 1 wherein the process chamber is a cold-wall chamber.

15. (Currently Amended) The process of claim 1, wherein the showerhead has a plurality of [[film]]fine openings through which the oxygen and water vapor pass.

16. (Previously Presented) The process of claim 15, wherein the fine openings are evenly spaced.

17. (New) The process of claim 1, wherein translating occurs at a rate between 10 and 400 meters per hour.

18. (New) The process of claim 12, wherein translating occurs at a rate between 10 and 400 meters per hour.